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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,959	03/30/2004	Hee-Jung Park	LNK-0070	5867

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CANTOR COLBURN, LLP
55 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002

EXAMINER

KUGEL, TIMOTHY J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,959

Applicant(s)

PARK ET AL.

Examiner

Timothy J. Kugel

Art Unit

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/1/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

1. Claims 1-17 are pending as filed on 30 March 2004.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 7 and 14 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 7 and 14 recite the limitation "...wherein the anthracene compound of Formula 6 is 9,10-bis(4-methylphenyl)anthracene and 9,10-bis(4-methoxyphenyl)anthracene ..." and it is unclear if the claim demands a single anthracene as implied by the article 'the' or a mixture of the two named anthracene compounds as implied by the conjunction 'and'.

For the purpose of examination claims 7 and 14 were each construed to recite "...wherein the anthracene compound of Formula 6 is 9,10-bis(4-methylphenyl)anthracene or 9,10-bis(4-methoxyphenyl)anthracene ..."

Also regarding claims 7 and 14, the inclusion of a term within parentheses—excluding the chemical names—renders the claim indefinite because it is unclear whether the included term is part of the claimed invention.

Claim Rejections - 35 USC § 102 and 35 USC § 103

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 4, 8-12, 15 and 17 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,597,517 (Chopdekar hereinafter).

Chopdekar teaches a chemiluminescent composition comprising an oxalate solution comprising an oxalate—including bis(2,4,5-trichloro-6-carbopentoxylphenyl)oxalate as claimed—a perylene—including 1,6,7,12-tetrachloro-N,N'-bis(2,6-diisopropylphenyl)-3,4,9,10-perylenedicarboximide which corresponds to the claimed formula 3 when R is an aryl group (diisopropylphenyl) and X is Cl, and 2-ethyl-9,10-bis(phenylethynyl)anthracene as claimed—and a solvent—including esters—and an activator solution comprising hydrogen peroxide, a solvent—including esters—and a catalyst (Column 1 Lines 13-19 and Column 2 Line 65 – Column 5 Line 37)

Pertaining specifically to claims 1 and 12, since Chopdekar teaches the same composition as claimed, one of ordinary skill in the art at the time the invention was made would have expected that the color of light emitted of the Chopdekar composition would inherently be the same as claimed.

Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." *In re Best*, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977).

7. Claims 5-7, 13, 14 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chopdekar in view of US Patent Application Publication 2003/0116759 (Park '759 hereinafter).

Chopdekar teaches a chemiluminescent composition comprising an oxalate solution comprising an oxalate—including bis(2,4,5-trichloro-6-carbopentoxyphenyl)oxalate as claimed—a fluorescer—including 1,6,7,12-tetrachloro-N,N'-bis(2,6-diisopropylphenyl)-3,4,9,10-perylenedicarboximide which corresponds to the claimed formula 3 when R is an aryl group (diisopropylphenyl) and X is Cl, and 2-ethyl-9,10-bis(phenylethynyl)anthracene as claimed—and a solvent—including esters—and an activator solution comprising hydrogen peroxide, a solvent—including esters—and a catalyst as detailed above.

Chopdekar does not disclose expressly the inclusion of a blue emitting anthracene as claimed.

Park '759 discloses a chemiluminescent composition comprising an oxalate solution comprising an oxalate—including bis(2,4,5-trichloro-6-carbopentoxyphenyl)oxalate as claimed—a fluorescer—including 9,10-bis(4-

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methoxyphenyl)-2-chloroanthracene and 9,10-bis(4-methylphenyl)-2-chloroanthracene as claimed—and a solvent—including esters—and an activator solution comprising hydrogen peroxide, a solvent—including esters—and a catalyst (¶¶0005, 0012-0013, 0034-0036, 0060, 0061, 0065 and 0066-0068).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the anthracene fluorescers in the composition of Chopdekar. The motivation to do so would have been to include the high intensity blue light emitted by the anthracene compound to the Chopdekar composition (Park '759 ¶0002).

Since Chopdekar and Park '759 combine to teach the same composition as claimed, one of ordinary skill in the art at the time the invention was made would have expected that the color of the emitted light of the Chopdekar/Park '759 composition would inherently be the same as claimed.

Please note that the applied reference Park '759 constitutes prior art under 35 U.S.C. 102(e) and 35 U.S.C. 102(a).

8. Claims 2 and 3 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Chopdekar in view of US Patent Application Publication 2003/0111649 (Park '649 hereinafter).

Chopdekar teaches a chemiluminescent composition comprising an oxalate solution comprising an oxalate—including bis(2,4,5-trichloro-6-carbopentoxyphenyl)oxalate as claimed—a fluorescer—including 1,6,7,12-tetrachloro-N,N'-bis(2,6-diisopropylphenyl)-3,4,9,10-perylenedicarboximide which corresponds to the claimed formula 3 when R is an aryl group (diisopropylphenyl) and X is Cl, and 2-

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ethyl-9,10-bis(phenylethynyl)anthracene as claimed—and a solvent—including esters—and an activator solution comprising hydrogen peroxide, a solvent—including esters—and a catalyst as detailed above.

Chopdekar does not expressly disclose perylene compounds having alkyl substituents.

Park '649 discloses a chemiluminescent composition comprising an oxalate solution comprising an oxalate—including bis(2,4,5-trichloro-6-carbopentoxyphenyl)oxalate as claimed—a fluorescer—including a perylene as claimed in formula 3 when X is Cl and R is an C₁₂-C₂₀ alkyl group—and a solvent—including esters—and an activator solution comprising hydrogen peroxide, a solvent—including esters—and a catalyst (¶0002, Formula 6, ¶¶0027, 0030 and 0033-0035).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the perylenes of Park '649 in the composition of Chopdekar. The motivation to do so would have been to mix the red light emitted by the Park '649 perylene with the light emitted by the Chopdekar composition (Park '649 ¶0004).

Since Chopdekar and Park '649 combine to teach the same composition as claimed, one of ordinary skill in the art at the time the invention was made would have expected that the color of the emitted light of the Chopdekar/Park '649 composition would inherently be the same as claimed.

Please note that the applied reference Park '649 constitutes prior art under 35 U.S.C. 102(e) and 35 U.S.C. 102(a).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

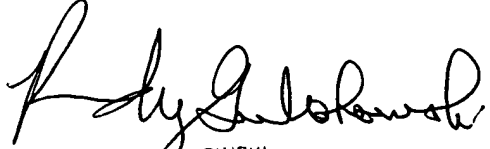
US 4,678,608	07-1987	Dougliss
US 4,717,511	01-1988	Koroscil
US 5,705,103	01-1998	Chopdekar

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Kugel whose telephone number is (571) 272-1460. The examiner can normally be reached Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJK
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RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700